

## ABSTRACT

A soliton transmission method where groups of partially overlapping short pulses are sent as solitons. Such pulses are laser pulses or any other electromagnetic radiation pulses having a same wavelength. The pulses in the pulse groups can be modulated both individually as well as collectively as a group. The present invention introduces also data packets based on such pulse group solitons. It is also introduced a packet switching system for packet based networks, where the packets are switched according to delivery address predictions. In said packet switching system, the node computers boost the accuracy of the packet delivery address predictions by interleaving the switched packets so that their delivery addresses follow regular patterns in the relayed packet trains. In said packet switching system, it is also introduced two different switching methods which use packet tags to denote the delivery addresses of packets.